

**PUBLIC VERSION**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

WSOU INVESTMENTS, LLC D/B/A  
BRAZOS LICENSING AND  
DEVELOPMENT,

*Plaintiff,*

v.

MICROSOFT CORPORATION,

*Defendant.*

CASE NO. 6:20-CV-00454-ADA

CASE NO. 6:20-CV-00461-ADA

CASE NO. 6:20-CV-00465-ADA

JURY TRIAL DEMANDED

**BRAZOS' OPPOSITION TO DEFENDANT MICROSOFT CORPORATION'S MOTION  
FOR SUMMARY JUDGMENT OF PATENT INELIGIBILITY OF THE ASSERTED  
CLAIMS OF U.S. PATENT NOS. 7,366,160, 8,274,902, AND 7,106,702**

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2	Excerpts of the Expert Report of Mark Coates Ph.D. Regarding the Invalidity of U.S. Patent No. 7,366,160	Coates 160 Invalid. Rep.
3	Excerpts of the Expert Report of Dr. Stan McClellan Regarding Validity of U.S. Patent 7,366,160	McClellan 160 Valid. Rep.
4	Excerpts of the Expert Report of Dr. Stan McClellan - Infringement of U.S. Patent No. 8,274,902 By Microsoft Corporation	McClellan 902 Infr. Rep.
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## I. INTRODUCTION

Claims “directed to an improvement in the functioning of a computer” are not abstract. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016). That rule resolves the § 101 inquiry for the patents here. Even if the asserted claims were directed to some abstract idea, the claims—by themselves or in an ordered combination—nonetheless disclose an inventive concept. “Whether the claim elements or the claimed combination are well-understood, routine, conventional is a question of fact.” *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018). Here, at the very least, genuine issues of material fact preclude summary judgment.

## II. ARGUMENT

### A. The ’160 Patent Asserted Claims Are Patent Eligible.

#### 1. Alice Step One: The asserted claims are not directed to an abstract idea.

Computer-based claims which merely “automat[e] a conventional idea on a computer” or add “general-purpose computer components . . . post-hoc to a fundamental economic practice or mathematical equation” are directed to abstract ideas and thus are not patent eligible. *SRI Int’l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1304 (Fed. Cir. 2019); *Enfish*, 822 F.3d at 1339. But those which are focused on a “specific asserted improvement in computer capabilities” are eligible under § 101. *Packet Intelligence LLC v. NetScout Sys., Inc.*, 965 F.3d 1299, 1309 (Fed. Cir. 2020).

Here, the claim language alone demonstrates that the claims are “necessarily rooted in computer technology in order to solve a specific problem in the realm of computer networks.” *Id.*; *SRI*, 930 F.3d at 1303. The ’160 patent provides a specific solution to a technological problem, providing tools for accurately forecasting performance of a network service based on service trends. This problem is purely technological and it does not have an analog in the context of economic or human activity. Microsoft does not even argue to the contrary.

Claim 1, which discloses a method of “determining communications network service trends, the method comprising the steps of: selecting two or more parameters of a network representative of a network service and variable in time,” does not simply “automat[e] a conventional idea on a computer” or add “general-purpose computer components . . . post-hoc to a fundamental economic practice or mathematical equation.” *SRI*, 930 F.3d at 1304; *Enfish*, 822 F.3d at 1339. Rather, it recites a series of steps to solve a “specific problem in the realm of computer networks”—namely, providing tools for accurately forecasting performance of a network service based on service trends. *See SRI*, 930 F.3d at 1303; *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300 (Fed. Cir. 2016) (holding that system for “reduc[ing] congestion in network bottlenecks” offered technological solution to a technological problem). The claim thus improves the functionality of a computer network by reciting a specific technique for solving a challenge unresolved by the prior art. *See SpeedTrack Inc. v. Amazon.com, Inc.*, 2017 WL 11046199, at \*4 (N.D. Cal. Jan. 23, 2017) (holding that a method for accessing files in a data storage system was “directed at solving a challenge unresolved by the prior art in which a search in a hierarchical directory structure did not guarantee a result”).

The specification also confirms that the claims are “directed to a technological solution to a technological problem.” *See SRI*, 930 F.3d at 1303 (relying on specification); *Packet Intel.*, 965 F.3d at 1309–10 (same). The specification explains that the invention “relates to network monitoring methods, and more particularly to methods of determining service trends in a telecommunications network.” ’160 patent (Microsoft Ex. A) at 1:3-5. The specification teaches that “[a]t present there are no tools for forecasting accurately the failure of a network service.” *Id.* at 1:24–25. The claimed invention attempts to fill this void by describing and claiming a “method of determining communications network service trends” that solves the prior art problem that

“variation [in service quality] over time of the monitored indicator cannot be determined.” *Id.* at 1:18-19.

Specifically, the claimed invention leverages network parameters to determine the strategic effectiveness of a network service. McClellan 160 Infr. Rep. ¶ 32. The network parameters are not simply compared with thresholds or presented in graphical form to aid human decision-making processes, as had been previously done in the prior art. ’160 patent at 2:40-45, 3:20-29. Instead, the ’160 patent describes a technological framework by which data and parameters are formulated into model-based service indicators. *Id.* at 3:50-52; 5:50-57; McClellan 160 Infr. Rep. ¶¶ 25-26. The collection of services indicators extrapolate into the domain and key performance indicators required by a network service provider. ’160 patent at 2:57-63; 3:3-10; 4:52-57. This process, which is necessarily routed in the functioning of the network, aids in determining critical outcomes such as pending capacity issues and/or service failures. *Id.* at 2:10-12; 5:26-32; McClellan 160 Infr. Rep. ¶ 26. Just like the patent specification at issue in *SRI*, the specification here identifies problems with existing computer networks and explains how “the claimed invention is directed to solving these weaknesses.” *SRI*, 930 F.3d at 1303–04.

Notably, this end-to-end framework for managing critical network services via model-based service indicators, described in the specification and recited in the claims, represents an ordered combination that was unique and inventive at the time of disclosure, when “no tools” were available for “forecasting accurately the failure of a network service.” ’160 patent at 1:20-25. The claims are thus not directed to an abstract idea. *See ESW Holdings, Inc. v. Roku, Inc.*, No. 6:19-CV-00044-ADA, 2019 WL 10303653, at \*3–4 (W.D. Tex. May 13, 2019) (quoting *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313-14 (Fed. Cir. 2016) (“Thus, a court must look to the claims as an ordered combination, without ignoring the requirements of the



individual steps, and determine whether the claims in these patents focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.”)

The Court’s claim construction order further confirms that the ’160 patent solved a problem unique to the technological context. The Court construed various claim terms of the ’160 patent, including: “network parameter” as including “parameters such as ‘packet losses; time-delays between packets; jitter or stability; band width; bandwidth stability; and the directionality of the communication’” and “service indicator” as indicating “the quality of a network service.” Dkt. 62 (Case -454) at 4. The Court’s constructions demonstrate that the ’160 patent claims are specifically directed to improving previously unresolved technical issues attendant to computer networks.

Because the claims here are directed to a specific improvement in the functioning of computer networks, they are not directed to an abstract idea.

Microsoft contends that the ’160 patent is “directed to [the] abstract [idea of] ‘mathematical calculations,’ [or more specifically] ‘mathematical algorithms for performing calculations’” arguing the ’160 Patent “focus[es] on the use of a mathematically determined ‘trend’ for prediction without more.” Mot. at 4. Microsoft’s gross oversimplification of the claims in order to divine an abstract idea in the claims violates well-established case law.

As this Court recently explained:

“The abstract idea exception prevents patenting a result where ‘it matters not by what process or machinery the result is accomplished.’” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *O’Reilly v. Morse*, 56 U.S. 62, 113 (1854)). ***The Court is mindful that it “must be careful to avoid oversimplifying the claims’ by looking at them generally and failing to account for the specific requirements of the claims.”*** *Id.* at 1313 (quoting *In re TLI Communications LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016)). . . . During this first step, ***it is crucial to “articulate what the claims are directed to with enough***

*specificity to ensure the step one inquiry is meaningful,” because all patents “embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”* *Thales [Visionix Inc. v. United States]*, 850 F.3d 1343, 1347 (Fed. Cir. 2017)]; *Alice [Corp. v. CLS Bank Int’l]*, 573 U.S. 208, 217 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012)].

*ESW Holdings, Inc.*, 2019 WL 10303653, at \*3–4 (emphasis added).

While the ’160 patent claims employ the use of mathematical calculations like many of the patent-eligible claims cited above, they are not directed to “mathematical calculations” or “mathematical algorithms for performing calculations.” Rather, they provide tools for accurately forecasting performance of a network service based on service trends. Microsoft’s own expert acknowledges that the claims are not simply directed to mathematical calculations but rather are directed to improvements in the field of network management. *See, e.g.*, Coates 160 Invalid Rep. ¶ 412 (acknowledging that patents in the same field as the ’160 patent provide for “improv[ing] the management of voice services” and “the ability to predict whether a service quality indicator will cross a threshold will improve a service administrator’s or provider’s ability to manage the service”); *id.* ¶¶ 417-418 (discussing how an alleged prior art combination disclosing the ’160 patent claims provided for “improve[d] network management abilities”); *id.* ¶ 427 (same for a “improve[d] network management”); *id.* ¶ 431-432 (while discussing claim 1’s limitations, noting that “predicting whether a service quality indicator will cross a threshold can improve a service provider’s ability to manage the service”). Thus, even Microsoft’s expert agrees that, at a minimum, the claimed invention is directed to “improve[d] network management” rather than simply a mathematical calculation or mathematical algorithms.

Notably, claim 1’s limitations require the performance of specific, detailed steps at specific points in a communications network, such as (1) “selecting two or more parameters of a network representative of a network service and variable in time,” (2) “measuring and/or calculating at two

or more times values of the network parameters,” (3) “determining at two or more times the value of a service indicator as a function of said measured and/or calculated parameter values,” (4) “determining a trend of the indicator as a function of said determined indicator values,” and (5) “determining as a function of the trend of the indicator a time of the service indicator crossing a defined threshold.” The above steps are also not abstract because non-computer-based communications networks did not, and were incapable of, performing these steps as laid out in the claims.

Moreover, since these steps are limited to a computer network—*see, e.g.*, ’160 patent claim 12 (“A network and/or service management system using a method according to claim 1”)—they cannot be performed with pencil and paper, nor has Microsoft adduced incontrovertible evidence as to how the claimed steps could be performed using pencil and paper or within the mind of a human operator. For example, Microsoft does not explain how one could “measur[e] and/or calculat[e] at two or more times values of the network parameters” without a computer network. The same is true for the other limitations. One cannot “determin[e] at two or more times the value of a service indicator as a function of said measured and/or calculated parameter values” with pencil and paper or without a computer network because these steps are inextricably intertwined with the network. *See* McClellan 160 Valid Rep. ¶ 306 (explaining that a human being cannot perform the steps of the claims of the ’160 patent). Similarly, a computer network is essential for “calculating a mathematical expectation of financial loss as a function of the network service trend determined,” ’160 patent claim 10, and “determining a capacity to provide a network service at a given time,” *id.*, claim 11.

The broad framing Microsoft articulates—“mathematical calculations”—fails to examine the asserted claims as a whole. This is improper. *See McRO, Inc.*, 837 F.3d at 1312 (“[T]he claims

are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.”); *Diamond v. Diehr*, 450 U.S. 175, 188 (1981) (same). Claim 1 does not baldly claim “mathematical calculations” or a “mathematical algorithm[] for performing calculations,” but rather discloses a particular method for accurately forecasting performance of a network service based on service trends through a series of steps tied to a physical system—a communications network. *See* ’160 patent claim 1 (“A method of determining communications network service trends. . . .”); *id.*, claim 12 (“A network and/or service management system using a method according to claim 1.”)

The Federal Circuit’s decision in *Amdocs*, 841 F.3d at 1299–1300, is instructive. There, the representative claim was for a “computer program product” and the court held that the claim, when framed at the appropriate level of abstraction, was *not* directed to an abstract idea: It was “tied to a specific structure of various components”—including “generic components” such as “network devices, gatherers, . . . a user interface server, and terminals or clients”—and did “not preempt any and all generic enhancement of data in a similar system.” *Id.* at 1301. So too here. Framed at the proper level of generality, the claim here is “tied to a specific structure of various components”—a computer network environment—and it does not preempt all software solutions, but instead offers a particular method for determining service trends in a telecommunications network.

Microsoft also suggests that claim 1 is directed to an abstract idea because it requires only conventional network components and limitations that were allegedly taught by the prior art.<sup>1</sup> But

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<sup>1</sup> Microsoft conflates anticipation and obviousness with patent eligibility and mischaracterizes the prosecution history. Courts recognize that “[i]t is important to distinguish novelty and obviousness from the ‘inventive feature’ inquiry required by the Supreme Court in *Alice*. To be novel, a patent must include an element not present in the prior art. By contrast, the inventive feature question concerns whether the patent adds something to the abstract idea that is integral to the claimed

the conclusion does not follow the premise. As a matter of law, if the claim teaches a method that improves the functioning of computer hardware, the claim is not directed to an abstract idea. *See Amdocs*, 841 F.3d at 1300 (upholding patent eligibility though the “solution require[d] arguably generic components, including network devices and ‘gatherers’ which ‘gather’ information”); *Enfish*, 822 F.3d at 1338 (explaining that “the invention’s ability to run on a general-purpose computer” did not “doom[] the claims” because they were also “directed to an improvement in the functioning of a computer.”).

Separately, Microsoft fixates on claim 1’s verbs, contending that the claim uses “result-based” like “measure” and “determine,” and accordingly, the claim does not sufficiently describe how the result will be accomplished. Mot at 8. But this argument follows only by tautology: Microsoft defines the “result” of the patent—*i.e.*, the “abstract idea”—as “mathematical calculation,” so it is no wonder that accomplishing that result by the same language is “result-oriented.” The patent does not merely claim a result but instead teaches a specific sequence of steps for doing so. For that same reason, even if the claim uses “functional, result-based language”—whatever that means—“the language of the claim and the specification are directed to more than just these results.” *See Broadcom Corp. v. Netflix Inc.*, 2021 WL 4170784, at \*12 (N.D. Cal. Sept. 14, 2021).

Numerous cases with materially indistinguishable language upholding patent eligibility confirm that the use of functional language in claims, standing alone, does not render claims abstract. *See Amdocs*, 841 F.3d at 1299 (upholding a claim involving a “computer program product” comprising “*receiving* . . . a first network accounting record,” “*correlating*” that record

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invention.” *Cogent Medicine, Inc. v. Physicians Interactive Holdings, Inc.*, 70 F. Supp. 3d 1058, 1065 n.3 (N.D. Cal. 2014) (quotation marks and citations omitted). Section 101 was not at issue during prosecution of any of the patent claims.

with accounting information from a second source, and “*using*” that accounting information “to enhance the first network accounting record.”); *Finjan, Inc. v. Blue Coat Systems, Inc.* 879 F.3d 1299, 1303–04 (Fed. Cir. 2018) (upholding a method comprising “*receiving* . . . a Downloadable,” “*generating* . . . a security profile that identifies suspicious code in the received Downloadable,” and “*linking* . . . the . . . security profile to the Downloadable before a web server makes the Downloadable available to web clients”); *SRI*, 930 F.3d at 1301 (upholding a method comprising “*deploying* a plurality of network monitors,” “*detecting* . . . suspicious activity,” “*generating* . . . reports of said suspicious activity,” and “automatically *receiving* and *integrating* the reports of suspicious activity”).

Moreover, the dependent claims further indicate that the claims are necessarily tied to a computer network and provide tools for accurately forecasting performance of a network service based on service trends. For example, claim 2 limits the claimed invention to a “network service [] selected from the group comprising: voice; videophone; telephone; multimedia; video on demand; private virtual network; real time data; interactive data; and data stream services.” Likewise, claim 11 requires “determining a capacity to provide a network service at a given time” and claim 12 limits the claims to “[a] network and or network management system.” ’160 patent claims 11-12.

In sum, neither claim 1 nor the dependent claims of the ’160 patent are directed to an abstract idea.

**2. *Alice* Step Two: The asserted claims, singly or as an ordered combination, solve a technology-based problem, and thus disclose an inventive concept.**

A claim survives Step Two if the “claimed elements—individually and as an ordered combination—recite an inventive concept.” *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1316 (Fed. Cir. 2019) (quotation marks omitted). “An inventive concept reflects something more than

the application of an abstract idea using well-understood, routine, and conventional activities previously known to the industry.” *Id.*

“Whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact. Any fact, such as this one, that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018). “[A]n adverse judgment against the patentee is improper when no factual evidence is provided for ‘whether the claimed invention is well-understood, routine, and conventional.’” *eCeipt LLC v. Homegoods, Inc.*, No. W-19-CV-00032-ADA, 2019 WL 10302271, at \*7 (W.D. Tex. May 20, 2019) (citing *Berkheimer*). Here, beyond parroting the language of the case law and mischaracterizing the prosecution history, Microsoft never even attempts to carry its burden to *show*—with evidence—why each claim limitation taught by claim 1 (or the other dependent and independent claims) is not inventive. That is because it cannot.

Even assuming the abstract idea of “mathematical calculations” or “mathematical algorithms for performing calculations,” the claims disclose an inventive concept through at least the ordered combination of the limitations. For instance, the claims of the ’160 patent provide a specific structure to the methods claimed therein, where “indicative network parameters” are subject to “a function” which provides the ability to “determine . . . the value of a service indicator.” McClellan 160 Valid. Rep. ¶ 310.

Microsoft fails to “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78–79). As this Court has noted, “even if each claim element, by itself, was known in the art, an inventive concept

can be found in the non-conventional and non-generic arrangement of known, conventional pieces.” *eCeipt*, 2019 WL 10302271, at \*3 (quoting *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016)) (additional citation omitted).

Here, the ordered combination reveals an inventive concept. As Brazos’s expert explains:

[T]he sequence of service indicators is subject to “a function” which provides the ability to “determine a trend of the indicator.” The trend of the indicator is subject to “a function” which provides the ability to “determine . . . the time of the service indicator crossing a defined threshold.” The sequence and action of the “functions” and “determinations” which proceed from the basic measurement of “network parameters” is the essence of the disclosure in the ’160 patent, which concludes with an implementation of a “service management system” dependent on these outcomes. ***This sequence and action is not foretold or anticipated by methods which provide some measurement of “user experience” for the purpose of “network management,” nor was it anticipated by technologies, methods, algorithms, or processes of the era.*** Instead, conventional approaches focused on collecting and displaying data related to “system performance” and “network statistics” for the purposes of network management. Network management is not service management. User experience is not a trend of a service indicator. A service indicator is not a collection of network parameter measurements. ***The observation of network parameters and extension of collections of those parameters into service indicators and trends thereof, which was not conventional and is not disclosed in the prior art.***

McClellan Valid. 160 Rep. ¶ 310; *see also supra* Section (III)(A)(1)(a) (discussing ordered combinations in Claim 1). Microsoft and its expert failed to conduct an “ordered combination” analysis or otherwise rebut this evidence. Indeed, Microsoft’s motion is entirely silent on the issue of whether the claims disclose an inventive ordered combination. Because it is Microsoft’s burden to make this showing, summary judgment is inappropriate.

Finally, Microsoft premises its argument on the use of generic network components by the patent claims and asserts that somehow, their inclusion precludes the ’160 patent from disclosing an “inventive concept.” But the patent in *BASCOM* also recited the use of generic computer and



network components, yet that did not preclude it from disclosing an inventive concept under *Alice* Step Two. 827 F.3d at 1349–50 (“[T]he limitations of the claims, taken individually, recite generic computer, network and Internet components, none of which is inventive by itself.”). There is no requirement that to be patent-eligible, the ’160 patent must invent or employ the use of special-purpose hardware. *Enfish*, 822 F.3d at 1338-39 (the court is “not persuaded that the invention’s ability to run on a general-purpose computer dooms the claims” if the claims “are directed to an improvement in the functioning of a computer”). As explained, the claims nonetheless disclose inventive steps beyond the well-understood, routine, or conventional.

## **B. The ’902 Patent Asserted Claims Are Patent Eligible.**

### **1. *Alice* Step One: The asserted claims are not directed to an abstract idea.**

Like the ’160 patent, the ’902 patent is directed to an improvement in computer functionality itself, specifically, monitoring packet loss in advanced wired and/or wireless network systems. Claims such as these which are focused on a “specific asserted improvement in computer capabilities” are eligible under § 101. *Packet Intel.*, 965 F.3d at 1309.

The claim language alone demonstrates that the claims are “necessarily rooted in computer technology in order to solve a specific problem in the realm of computer networks.” *SRI*, 930 F.3d at 1303; *Packet Intel.*, 965 F.3d at 1309. The ’902 patent discloses and claims a technological process for monitoring packet loss that can be deployed from a limited number of locations on a network, ’902 patent (Microsoft Ex. G) at 1:51-56, and still obtain information on the loss rates on many individual links of that network, whether such links are branching or non-branching. McClellan 902 Infr. Rep. ¶ 36. The claims of the ’902 patent require the performance of specific, detailed steps in a wireless and/or wired computer network, such as “collecting data on downstream packet losses at a single collection point in a network” and “estimating a packet loss

rate on at least one path that begins or ends on an intermediate node and that includes or begins or ends on an intermediate node that is a branch point of the network.” ’902 patent claim 1. At the time of filing, monitoring devices for conventional wired and/or wireless computer networks did not perform the steps laid out in the ’902 claims, and could not estimate packet loss on un-monitored segments of a network. *Id.* 3:45-57. This problem is purely technological and does not have an analog in the context of economic or human activity.

Claim 1, which discloses a method of “collecting data on downstream packet losses at a single collection point in a network that branches, downstream of the collection point, toward a plurality of end nodes and that includes nodes intermediate the collection point and at least some of the end nodes,” ’902 patent at 1:12-19, does not simply “automat[e] a conventional idea on a computer” or add “general-purpose computer components . . . post-hoc to a fundamental economic practice or mathematical equation,” *SRI*, 930 F.3d at 1304; *see also Enfish*, 822 F.3d at 1339. Rather, it recites a series of steps to solve a “specific problem in the realm of computer networks”—namely, monitoring and estimating packet losses along multiple data paths at a single collection point or node in advanced wired and/or wireless networks with a plurality of nodes. *See SRI*, 930 F.3d at 1303; *Amdocs*, 841 F.3d at 1300. The claims thus improve the functionality of a computer network by reciting a specific technique for solving a challenge unresolved by the prior art. *See SpeedTrack Inc.*, 2017 WL 11046199, at \*4.

The specification also confirms that the claims are “directed to a technological solution to a technological problem.” *See SRI*, 930 F.3d at 1303 (relying on specification); *Packet Intel.*, 965 F.3d at 1309–10 (same). The specification explains that the invention relates to “methods for monitoring the performance of networks, and more particularly to the determination of packet loss rates.” ’902 patent at 1:6-8. The specification teaches that the “performance of data networks is

sensitive to the loss of packets,” *id.* at 1:12–13, and that there “remains a need for methods of monitoring packet losses that can be deployed from a limited number of locations on the network and still obtain information on the loss rates on many individual links,” *id.* at 1:45–48. The ’902 patent solves this problem by inventing a “method involv[ing] collecting data on downstream packet losses *at a single point* in a network, and from the collected data, estimating packet loss rates on at least two subnetworks downstream of the collection point...” *Id.* at 52–56. The method also involves “data collection [] performed by a dedicated hardware monitoring device. *Id.* at 1:59, claim 2. Thus, like the specification in *SRI*, the ’902 specification here identifies problems with existing computer networks and explains how “the claimed invention is directed to solving these weaknesses.” *See SRI*, 930 F.3d at 1303–04.

Indeed, the claims expressly provide an improvement over previous methods for monitoring and estimating packet losses in advanced wired and/or wireless networks. The ’902 claim limitations require the performance of specific, detailed steps in a wireless and/or wired computer network, such as (1) “collecting data on downstream packet losses at a single collection point in a network,” and (2) “estimating a packet loss rate on at least one path that begins or ends on an intermediate node and that includes or begins or ends on an intermediate node that is a branch point of the network.” The above steps are also not abstract because conventional non-computer-based networks did not perform these steps as laid out in the claims.<sup>2</sup>

Because the claims here are directed to a specific improvement in the functioning of network, they are not directed to an abstract idea.

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<sup>2</sup> Further, the Court construed various claim terms of the ’902 patent, including: “packet loss rate” as “the fraction of packets that are lost over a suitable time-averaging interval wherein the ‘time-averaging interval’ is an interval of time over which an average is taken.” Dkt. 62 (Case -454) at 6. This demonstrates that the ’902 patent deals with technical issues that arise only in wireless communications networks and as such are necessarily technological in nature.

Microsoft contends that the '902 patent is directed to the abstract idea of “using an algorithm—any algorithm—to estimate packet loss.” Mot. at 14. This is simply not correct. Rather, the claims require at least (1) “collecting data on downstream packet losses at a single collection point in a network,” (2) “estimating a packet loss rate on at least one path that begins or ends on an intermediate node and that includes or begins or ends on an intermediate node that is a branch point of the network,” and (3) “a circuit configured to compute from the collected data an estimate of a packet loss rate on at least one path that begins or ends on an intermediate node and that includes or begins or ends on an intermediate node that is a branch point of the network.” '902 patent claim 1; *id.*, claim 6. It is self-evident that these claims are directed to more than using any algorithm to estimate packet loss. Not only do the claims require packet loss data collection at a *specified* single collection point on a network, but they additionally spell out the specific data paths that are capable of being monitored. As explained above, Microsoft’s gross oversimplification of the claims in order to divine an abstract idea in the claims violates well-established caselaw. *See, e.g., ESW Holdings*, 2019 WL 10303653, at \*3–4 (collecting Federal Circuit case law).

“A court must look to the claims as an ordered combination, without ignoring the requirements of the individual steps,” and determine “whether the claims in these patents focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO*, 837 F.3d at 1313-14. Microsoft violates this principle by dissecting the claim down to its individual elements and ignoring the steps in an ordered combination. The asserted claims cannot be said to be “abstract” because when viewed “as a whole” the claims are directed to a method and system for monitoring packet loss on a computer network that can be deployed from a limited

number of location points on the network and still obtain information on the loss rates on many individual links or data paths as specified in the claims.

The Federal Circuit’s holding in *Enfish* is instructive. In that case, the Federal Circuit reversed the lower court and found that two software-related patents were “directed to an innovative logical model for a computer database” and therefore were patent eligible under Section 101. 822 F.3d at 1330. The Court specifically found that the claims at issue were “directed to a specific improvement in the way computers operate.” *Id.* at 1336. Similarly, here the claims are not directed to an abstract idea within the meaning of *Alice* because they are directed to a specific improvement in the way computer networks work—they disclose a method that is capable of monitoring packet loss along multiple data paths at a single collection point in advanced wired and/or wireless network systems. Like the claims in *Enfish*, “the plain focus of the claim[ ] is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.” 822 F.3d at 1336. Thus, the claims are not directed to an abstract idea.

*Finjan*, 879 F.3d 1299 is similarly instructive. In *Finjan*, this Court explained that “the claims were not merely focusing on a desired result, but instead recited specific steps that accomplished the result.” *eCeipt LLC*, 2019 WL 10302271, at \*5 (citing *Finjan*). The same is the case here. The claims do not simply focus on a desired result, but rather recite the specific steps that accomplish that result. The claims are not directed to an abstract idea.

**2. Alice Step Two: The asserted claims, singly or as an ordered combination, solve a technology-based problem, and thus disclose an inventive concept.**

Again, Microsoft fails to “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217; *see also eCeipt* 2019 WL

10302271, at \*3. Microsoft also completely fails to carry its burden to establish by clear and convincing evidence, using actual factual evidence rather than attorney argument, that the claimed invention either by its elements alone or in ordered combination is well-understood, routine, and conventional. *Berkheimer*, 881 F.3d at 1368; *eCeipt LLC*, 2019 WL 10302271, at \*7.

Microsoft again improperly argues that the use of generic network components by the patent claims somehow precludes the claims from disclosing an “inventive concept.” But the patent in *BASCOM* also recited the use of generic computer and network components, yet that did not preclude it from disclosing an inventive concept under *Alice* Step Two. 827 F.3d at 1349–50 (“[T]he limitations of the claims, taken individually, recite generic computer, network and Internet components, none of which is inventive by itself.”). There is no requirement that to be patent-eligible, the ’902 patent must invent or employ the use of special-purpose hardware. The claims nonetheless disclose inventive steps beyond the well-understood, routine, or conventional.

As Brazos’s expert explains:

“[t]he ’902 patent discloses an inventive process for monitoring packet losses that can be deployed from a limited number of locations on a network and still obtain information on the loss rates on many individual links of that network, whether branching or non-branching links. As noted above, the claims of the ’902 Patent provide a specific structure to the methods and system claimed therein, require hardware and software, and produce a specific method of monitoring packet loss on a network, which was not conventional and is not disclosed in the prior art.

McClellan 902 Valid Rep. ¶ 123.

Further, prior to the ’902 patent, approaches purporting to describe network performance via sparse data were limited to highly specialized and nonstandard network deployments. These approaches relied on mathematical abstractions of the network architecture. *Id.* ¶¶ 70-72, 93, 96, 100. Such abstractions were not representative of realistic network architectures, *id.* ¶¶ 78, 88, 93, and these approaches are not commonly used as a result. In contrast, the approach claimed by the

'902 patent is applicable to networks with mild constraints, and is compatible with multiple intermediate node configurations. '902 patent at 3:25-30, claim 1. As such, at the time of filing, monitoring devices for conventional wired and/or wireless computer networks did not perform the steps laid out in the '902 claims, and could not estimate packet loss on un-monitored segments of a network. *Id.* 3:45-57.

Microsoft and its expert fail to rebut this evidence, much less carry their burden to establish that there is no disputed issue of material fact on this point. Further, Microsoft fails entirely to even conduct an ordered combination analysis. Because it is Microsoft's burden to make this showing, summary judgment is inappropriate.

### **C. The '702 Patent Asserted Claims Are Patent Eligible.**

#### **1. Alice Step One: The asserted claims are not directed to an abstract idea.**

The '702 patent claims are focused on a "specific asserted improvement in computer capabilities" are eligible under § 101. *Packet Intel.*, 965 F.3d at 1309. The '702 patent provides a specific solution to a technological problem, maintaining high reliability in network functionality and/or resources in a network so that one or more back-ups may take over when functions and/or resources are lost due to failure or otherwise. This problem is purely technological and has no analog in the context of economic or human activity.

The claims are "directed to a technological solution to a technological problem." *See SRI*, 930 F.3d at 1303; *Packet Intel.*, 965 F.3d at 1309–10. The specification explains the prior art "approach for achieving the desired redundancy is to have every node in the network carry out AAA functions and distribute a duplicate copy of the user database to every node for maintenance thereon. In this manner, the destruction or lost [sic] of any one node is not fatal to the network as

a whole.”<sup>3</sup> ’702 patent (Microsoft Ex. H) at 1:40-44. However, “[t]his database synchronization traffic can be considerably large and undesirably burdensome on the network.” *Id.* at 1:49-50. The claims of the ’702 patent “contemplate[] a new and improved method and/or system which overcomes the above-referenced problems and others.” *Id.* at 1:51-53.

The claim language alone demonstrates that the claims are “necessarily rooted in computer technology in order to solve a specific problem in the realm of computer networks.” *SRI*, 930 F.3d at 1303; *Packet Intel.*, 965 F.3d at 1309. For example, claim limitations require the performance of specific, detailed steps in a wireless computer network, such as (1) “selecting two of the plurality of nodes to be active nodes,” (2) “activating the AAA functions of the active nodes,” (3) “monitoring the active nodes to determine if one of the active nodes gets disconnected from the network,” and (4) “if one of the active nodes gets disconnected from the network, selecting another of the plurality of nodes to become an active node,” (5) “activating the AAA functions of the node selected,” and (6) “informing the plurality of nodes that the node selected in step (d) has its AAA functions activated.” The above steps are also not abstract because conventional, non-computer-based communication networks did not perform these steps as laid out in the claims.<sup>4</sup> *McClellan 702 Valid. Rep.* ¶ 250.

Moreover, each of the asserted claims cannot be said to be “abstract” because when viewed “as a whole” the claims are directed to a computer network-based process that greatly improves

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<sup>3</sup> The specification also dooms Microsoft’s preemption argument. *See* Mot. at 22 (arguing that the claims preempt the “abstract idea,” namely, redundancy, “in the context of AAA systems.”). The prior art systems already provide redundancy in AAA systems and are not covered by the claims. ’702 patent at 1:40-53.

<sup>4</sup> In addition, the Court construed various claim terms of the ’702 patent, including: “active nodes” as “node(s) in an active state of AAA functionality.” Dkt. 62 (Case -454) at 2. Microsoft provides no explanation as to how this concrete claim language is rooted in anything other than computer technology and thus not directed to an abstract idea.



the functionality of wireless communications networks. Microsoft and its expert do not actually disagree with this point, but rather argues the claims do not improve the operation of “a computer, network node, or other networking component operates.” DeKok Valid. Rep. (Microsoft Ex. I) ¶ 672. Microsoft misses the point of the claims and the invention. The claims improve the functionality of the *network* rather than any given network or computer component, and that is sufficient to take these claims outside of the ambit of § 101. The claims provide a network architecture that provides highly-available authentication, authorization, and accounting (“AAA”) capabilities in a communication network. ’702 patent at 1:50-55; McClellan 702 Infr. Rep ¶ 26; McClellan 702 Valid Rep. ¶ 260. The architecture functions via a subset of network elements which are “capable” of providing “AAA functionality.” ’702 patent at 1:55-61; 3:16-19; claim 1; McClellan 702 Valid. Rep. ¶ 258. These nodes are monitored, and if an active node becomes “disconnected” from the network, an inactive node is selected, activated, and begins providing the AAA function. ’702 patent 1:15-31. This approach is significant because a robust AAA capability is a necessary aspect of a network which provides valuable services for users. *Id.* 1:15-40; McClellan 702 Infr. Rep. ¶¶ 27, 29. A network with inadequate or non-functional AAA capability may be inefficient for authorized users or worse—exploited by unauthorized users. Thus, the provision of highly-available, resilient, and efficient AAA capability is critical to network operation. McClellan 702 Infr. Rep. ¶ 29; ’702 patent at 1:23-39.

The overbroad framing Microsoft articulates as the alleged abstract idea—“employing a back-up mechanism for important functions when needed”—fails to examine the asserted claims as a whole. This is improper. *See McRO, Inc.*, 837 F.3d at 1312 (“[T]he claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.”); *Diamond*, 450 U.S. at 188.

Microsoft again suggests that claim 1 is directed to an abstract idea because it requires only conventional network components and limitations that were allegedly taught by the prior art. As explained *supra* at 8-9, that is contrary to law. *See Amdocs*, 841 F.3d at 1300; *Enfish*, 822 F.3d at 1338. Moreover, the dependent claims further indicate that the claims are necessarily tied to a computer network. For example, claim 3 limits the claimed invention to a one where “each active node carries out the monitoring of the other.” Claim 8 requires “provisioning each of the plurality of nodes with a duplicate copy of a user database, each of said user databases being employed by its respective node to carry out AAA functions.” Likewise, claim 11 requires a “wireless communication network” wherein “active nodes monitoring one another to detect if an active node becomes disconnected from the network, wherein when one is determined to be disconnected from the network another of the plurality of nodes is selected to be an active node and the network informed thereof.” In short, there can be no serious debate that the claims are rooted in specific technological advances related to the performance of wireless computer networks.

**2. *Alice* Step Two: The asserted claims, singly or as an ordered combination, solve a technology-based problem, and thus disclose an inventive concept.**

A claim survives Step Two if the “claimed elements—individually and as an ordered combination—recite an inventive concept.” *Cellspin*, 927 F.3d at 1316 (quotation marks omitted). “An inventive concept reflects something more than the application of an abstract idea using well-understood, routine, and conventional activities previously known to the industry.” *Id.*

Microsoft largely ignores the claim elements and the asserted claims as a whole, and instead paraphrases the claims into a single phrase. And when Microsoft does consider the claim elements, it does so in isolation rather than as a whole. As Brazos’s expert explains, “[t]he ’702 Patent provide a specific structure to the methods claimed therein, require hardware and software, and produce a specific method of maintaining AAA functionality for a wireless communications

network, which was not conventional and is not disclosed in the prior art. This is explained above and throughout this report.” McClellan 702 Valid. Rep. ¶ 257.

“At the time it was filed, the ’702 Patent disclosed a unique approach to providing a highly-available AAA function in a wireless telecommunication network via a subset of nodes which are ‘capable’ of providing the AAA function. These nodes are monitored, and if an active node becomes ‘disconnected’ from the network, an inactive node is selected, activated, and begins providing the AAA function.” *Id.* ¶ 258.

Indeed, in addition to the above, Microsoft and its expert fail to dispute that:

Prior to the ’702 Patent, the concept of “the AAA function” of a network was not implicitly a combination of several components or features which, acting together in a fashion specified by the claim language, were able to provide a form of high-availability for “the AAA function” of the network. Instead, as described previously, the several components providing aspects of “the AAA function” were individually considered as a protocol (RADIUS), a user database, and a collection of tools (middleware) to be used in implementation of various high-availability features, including network-based load balancing. This distinction is clear in the specification of the RADIUS protocol, for example, where the “acts” of authentication, authorization, and accounting are explicitly separated from the communication process, and are unspecified in terms of an integrated collection resulting in an “AAA function.”

As a result, the ’702 patent conceived of ‘the AAA function’ for the first time as an integrated whole, implemented within a distributed network context but managed, monitored, and provisioned as a highly-available service, regardless of the underlying, constituent technologies or implementations.

*Id.* ¶¶ 259-260. This un rebutted, even unchallenged, evidence precludes summary judgment.

Further, Microsoft again fails to “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (citation omitted). Microsoft’s motion is entirely silent on the issue of whether the claims disclose an inventive

ordered combination. Because it is Microsoft's burden to make this showing, summary judgment is inappropriate.

Prior art approaches were based around telecommunications standards and were highly specific to comport with conventional telecommunications requirements. The '702 patent claims providing and maintaining a highly-available AAA capability in a communication network. 1:55-2:3; McClellan 702 Infr. Rep. ¶¶ 30-31. In contrast, prior art at the time of filing applied only to traditional network access control methods using specific technologies which were not designed for ensuring high reliability of all aspects of a distributed AAA capability. The '702 patent addresses certain ways that "the AAA function" of a communication network, including the user database, can be distributed and managed to ensure resiliency and provide constant availability. '702 patent at 3:15-31. The claims describe specific ways in which systems in a network which are capable of providing AAA features are managed and monitored to detect and recover from failures, *id.* at 1:55-2:16, 3:39-43, 3:53-55 (claim 1), and to provide synchronization for potentially distributed copies of a user database. *Id.* at 2:25-32, 3:46-55 (claim 1). As such, the '702 patent claims and inventive concept is implemented within a distributed network context but managed, monitored, and provisioned as a highly-available network service. The claims of the '702 patent are patent eligible.

### III. CONCLUSION

For the foregoing reasons, the Court should deny Microsoft's Motion for Summary Judgment of Patent Ineligibility of the Asserted Claims of U.S. Patent Nos. 7,366,160, 8,274,902, and 7,106,702.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

The undersigned certifies that on April 26, 2022, the documents filed with the Clerk of Court via the Court's CM/ECF system under seal in the above-captioned cases were subsequently served on all counsel of record by electronic mail.

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